

DEPARTMENT OF COMMERCE

BUREAU OF STANDARDS

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CIRCULAR OF THE BUREAU OF STANDARDS, No. 241

[Issued June 15, 1925]

UNITED STATES GOVERNMENT MASTER SPECIFICATION FOR
COMPRESSED ASBESTOS SHEET PACKING

FEDERAL SPECIFICATIONS BOARD SPECIFICATION No. 96a

[Revised June 15, 1925]

This specification was officially promulgated by the Federal Specifications Board on December 29, 1923, for the use of the Departments and Independent Establishments of the Government in the purchase of compressed asbestos sheet packing.

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I. GRADES

Packing shall be furnished in two grades, as required: Grade A and grade B.

II. MATERIAL AND WORKMANSHIP

Packing shall be made of asbestos fiber, treated with a rubber compound and felted into a sheet of compact and uniform texture, with smooth surfaces and free from imperfections. The finished packing shall be free from gasoline or other solvents used in the process of manufacture.

III. GENERAL REQUIREMENTS

1. The fiber shall be chrysotile asbestos of not less than 12 per cent water of composition.

2. The rubber shall be the best quality new wild or plantation rubber.

3. Packing shall be furnished in the dimensions ordered. A tolerance in thickness, plus or minus, will be permitted as follows: For thickness $\frac{3}{32}$ inch or less, 10 per cent; for greater thickness, 5 per cent.

4. The hardness, measured in depth of indentation produced by a spherical surface 3.2 mm (0.125 inch) in diameter under a dead-weight pressure of 1 kg (2.2 pounds) applied for one minute, shall be not less than 0.15 mm nor more than 0.25 mm. At least five impressions shall be made on both faces and the average of all readings reported as the hardness.

IV. DETAIL REQUIREMENTS

1. GRADE A PACKING.—(a) This grade shall have the following chemical composition:

Asbestos fiber, minimum.....	per cent by weight..	75
Rubber.....	do.....	9 to 16
Sulphur.....	do.....	0.50 to 1
Mineral fillers, maximum.....	do.....	13

(b) The asbestos fiber shall be thoroughly carded and not less than 90 per cent shall remain on the $\frac{1}{2}$ -inch screen and not more than 6 per cent shall pass through the $\frac{1}{4}$ -inch screen when 1 pound of fiber is subjected to a two-minute test in a standard asbestos shaking machine.

(c) The tensile strength shall be not less than 4,000 lbs./in.²

(d) The weights of the finished packing shall conform to the following:

Size of packing (inch)	Weight per square yard	
	Minimum	Maximum
	<i>Pounds</i>	<i>Pounds</i>
$\frac{1}{16}$	1.0	1.3
$\frac{1}{8}$	2.2	2.7
$\frac{3}{16}$	4.4	5.4
$\frac{1}{4}$	8.8	10.8
$\frac{5}{16}$	13.2	16.2
$\frac{3}{8}$	17.6	21.6

2. GRADE B PACKING.—(a) This grade shall have the following chemical composition:

Asbestos fiber, minimum-----per cent by weight--	70
Rubber-----do----	9 to 16
Sulphur, maximum-----do----	1
Mineral fillers-----	Remainder

(b) The tensile strength shall be not less than 3,000 lbs./in.²

(c) The weights of the finished packing shall conform to the following:

Size of packing (inch)	Weight per square yard	
	Minimum	Maximum
	<i>Pounds</i>	<i>Pounds</i>
$\frac{1}{4}$ -----	1.2	1.5
$\frac{3}{8}$ -----	2.4	3.0
$\frac{1}{2}$ -----	4.8	5.9
$\frac{3}{4}$ -----	9.6	11.8
$\frac{7}{8}$ -----	14.4	17.7
1-----	19.2	23.6

V. METHODS OF INSPECTION AND TESTS

1. Two samples of finished packing 12 inches square shall be selected by the inspector from each lot of 2,000 pounds of packing or less of each thickness and forwarded to the testing laboratory for such tests as may be necessary to determine compliance with this specification.

2. Accurate records of each box or mix of material shall be maintained by the manufacturer and be open for examination by the inspector who shall at intervals be permitted to check the mixing operation.

3. The inspector may make a screen analysis of the asbestos fiber during the process of manufacture to determine compliance with Section IV, 1 (b) above.

4. The tension test piece shall have a constricted portion 2 inches long and $\frac{1}{2}$ inch wide. Three tension tests shall be made in each direction from each lot except $\frac{1}{64}$ -inch sheet which is tested only in the longitudinal direction.

VI. PACKING AND MARKING

Packing and marking shall be as called for in the proposal.

VII. ADDITIONAL INFORMATION

1. Grade A packing is for use in steam joints under a maximum pressure of 350 lbs./in.² and a maximum temperature of 700° F., and for joints of internal combustion engines.

2. Grade B packing is for use in steam joints under a maximum pressure of 300 lbs./in.² and a maximum temperature of 600° F., and for internal combustion engines.

VIII. GENERAL SPECIFICATIONS

All tests and analyses shall be made in accordance with the methods described in United States Government General Specifications for Rubber Goods, F. S. B. Specification No. 59a, in effect on date of proposal.

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